

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A multilayer composite article comprising:
 - a gel coat layer comprising a thermosetting resin;
 - a fiber reinforced laminate layer comprising ~~first~~ a first set of fibers having a first length; and
 - a barrier layer disposed between the gel coat layer and the laminate layer;wherein the barrier layer comprises ~~second~~ a second set of fibers dispersed in a polyester resin, said second fibers having a second length shorter than the first length.
2. (original) A multilayer composite according to claim 1, wherein the polyester resin comprises up to 25% of an isophthalic acid resin, based on the total weight of the polyester resin.
3. (original) A multilayer composite according to claim 1, wherein the polyester resin comprises 75-100% by weight of a dicyclopentadiene resin, based on the total weight of the polyester resin.

4. (original) A multilayer composite according to claim 1, wherein the polyester resin comprises 75-99% by weight dicyclopentadiene resin and 1-25% by weight isophthalic resin.

5. (original) A multilayer composite according to claim 1, wherein the second length is 1 mm or less.

6. (original) A multilayer composite according to claim 1, wherein the second length is 0.5 mm or less.

7. (original) A multilayer composite according to claim 1, wherein the second length is 0.4 mm or less.

8. (original) A multilayer composite according to claim 1, wherein the gel coat is 1/2-2 mm thick, the barrier coat is 1-3 mm thick, and the laminate layer is 2-5 mm thick.

9. (original) A multilayer composite according to claim 1, wherein the barrier coat comprises up to 45% by weight milled glass fibers of length less than 1 mm and 50-95% by weight resin comprising dicyclopentadiene resin and isophthalic acid ratio in a ratio of at least 4:1.

10. (original) A multilayer composite according to claim 1, wherein the barrier coat further comprises polymeric hollow microspheres.

11. (original) An automotive body panel comprising:

a gel coat layer;

a laminate layer; and

a barrier coat disposed between the gel coat and the laminate layer,

wherein the barrier coat comprises a polyester resin and reinforcing fibers of length 1 mm or less.

12. (original) A body panel according to claim 11, wherein the barrier coat exhibits an elongation at break of at least 1%.

13. (original) A body panel according to claim 11, wherein the barrier coat exhibits an elongation at break of at least 2%.

14. (original) A body panel according to claim 11, wherein the barrier coat comprises dicyclopentadiene resin and isophthalic resin in a ratio of 4:1 and higher.

15. (original) A body panel according to claim 11, wherein the laminate layer comprises a dicyclopentadiene resin and glass fibers of 6 mm in length or greater.

16. (original) A body panel according to claim 15, wherein the laminate further comprises hollow polymeric microspheres.

17. (original) A body panel according to claim 11, wherein the laminate layer, the barrier coat, or both further comprise a pigment.

18. (original) A body panel according to claim 17, wherein the pigment comprises carbon black.

19. (original) A body panel according to claim 11, wherein the barrier coat comprises reinforcing glass fibers of length 0.5 mm or less.

20. (currently amended) A barrier coat composition comprising:

a resin component comprising:

80-100 parts of dicyclopentadiene resin and up to 20 parts of an

isophthalic acid resin, and

a reinforcing fiber component comprising fibers having a length of 1 mm or less mixed with the resin component.

21. (original) A composition according to claim 20, wherein the reinforcing fiber component comprises fibers having a length of 0.5 mm or less.

22. (original) A composition according to claim 20, wherein the fibers have a length of about 0.4 mm.

23. (original) A composition according to claim 20, wherein the fibers have a length of about 0.025 mm.

24. (original) A composition according to claim 20, wherein the composition exhibits an elongation at break of 1% or greater.

25. (original) A composition according to claim 20, wherein the composition exhibits an elongation at break of 2% or greater.

26. (original) A composition according to claim 20, wherein the barrier coat further comprises a filler selected from the group consisting of hollow glass microspheres and polymeric hollow microspheres.

27. (original) A composition according to claim 20, wherein the resin comprises up to 40% by weight styrene monomer.

2830. (currently amended) A method for preparing a composite article by spray up operation, comprising the steps of:

applying a gel coat into a mold;

applying a barrier coat over the gel coat in the mold; and

applying a laminate formula over the barrier coat,

wherein the laminate formula contains 20-60% by weight of first reinforcing fibers having a first length of 6 mm or greater and 40-80% by weight of a paste comprising a laminate coat polyester resin;

wherein the barrier coat comprises second fibers having a length less than the first length dispersed in a barrier coat polyester resin.

2934. (currently amended) A method according to claim 2830, wherein the gel coat applied to a thickness of 0.2 to 2 mm, the barrier coat is applied to a thickness of 0.5 to 5 mm, and the laminate layer is applied to a thickness of 1-10 mm.

3032. (currently amended) A method according to claim 2830, wherein the thickness of the composite article is from 2 to 15 mm.

3133. (currently amended) A method according to claim 2830, wherein the composite article is an automotive body panel.

3234. (currently amended) A method according to claim 2830, wherein the laminate formula fiber comprises polymeric hollow microspheres.

3335. (currently amended) A method according to claim 2830, wherein the first reinforcing fiber comprise glass fibers of 12 mm or greater in length or a second fibers comprise glass fibers of 1 mm or less in length.

3436. (currently amended) A method according to claim 2830, wherein the barrier coat polyester resin comprises 75-100 parts of a dicyclopentadiene resin and 1-25 parts of an isophthalic acid resin.

3537. (currently amended) A method of producing an automotive body panel comprising the steps of:

- applying a gel coat composition to mold surface;
- applying a barrier coat composition to the gel coat in the mold;
- applying a fiber reinforced laminate composition comprising fibers having a first length onto the barrier coat and the mold;
- curing at 50°C. or less; and
- removing the cured article from the mold,

wherein the barrier coat comprises polyester resin and glass fibers having a second length shorter than the first length.

3638. (currently amended) A method according to claim 3537, wherein the gel coat comprises a thermosetting resin.

3739. (currently amended) A method according to claim 3537, wherein the barrier coat exhibits elongation at break of 1% or greater.

3840. (currently amended) A method according to claim 3537, wherein the barrier coat exhibits elongation at break of 2% or greater.

3941. (currently amended) A method according to claim 3537, wherein the barrier coat comprises 100 parts of a polyester, including up to 20 parts of an isophthalic acid polyester resin.

4042. (currently amended) A method according to claim 3941, wherein the barrier coat comprises a dicyclopentadiene resin.

4143. (currently amended) A method according to claim 4042, wherein the barrier coat comprises glass fibers having a length of 1 mm or less.

42 [44]. (currently amended) A method according to claim 3537, wherein the barrier coat comprises glass fibers having a length of 0.5 mm or less.

4345. (currently amended) A method according to claim 3537, comprising the steps of applying the gel coat to a thickness of 0.5-2 mm, applying the barrier coat to a thickness of 1-3 mm, and applying the laminate coat to a thickness of 2-5 mm.